The objections to the claims have been noted. The claims have been carefully reviewed and claims 1, 5, 6, 8, and 12 to 14 have been amended in order to overcome the Examiner's objections.

Claim 14 was rejected under 35 U.S. C. § 112, second paragraph. This claim has been amended, as mentioned above, to overcome this ground of rejection.

Claims 1 to 5, 7 to 12 and 14 were rejected under 35 U.S.C. 102 (b) as being anticipated by Guerreri. This ground of rejection is specifically traversed.

The Guerreri patent, while issued thirteen years ago, might find popularity these days in that it is intended for use in anti-terrorist situations for selectively exploding charges which might be accidently exploded by ambient electric and electromagnetic signals. This is accomplished by providing a separate control unit for each explosive charge. The present of such signals is not something that one would encounter in downhole situations. Even the assignee of the Guerreri patent, Electronic Warfare Associates, Inc. clearly indicates that nowhere in this patent is there any suggestion of utilizing the invention in anything but an electronically hostile environment nor how the invention could be adapted to the more peaceful practice of exploding charges in a well bore for the production of petroleum.

Claims 6 and 13 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Guerreri in view of Neyer. This ground of rejection is also specifically traversed.

Claims 6 and 13 are dependent upon claims 1 and 8, respectively, and, since the independent claims are not anticipated by the prior art, as noted above, these dependent claims myust therefor also be considered as allowable.

In view of the foregoing, Applicant requests reconsideration and an early Notice of Allowance.

Respectfully submitted,

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December 3, 2002

CERTIFICATE OF MAILING

Date of Mailing December 3 , 2002

I hereby certify that the attached paper is being sent under 37 CFR 1.10 on the date indicated above in an envelope, First Class postage prepaid, addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Russell J. Egan
(Typed name of person faxing paper)

(Signature of person faxing paper)

Attorney Docket No.SOC-105
In re the application of
Edward Paul Cernocky et al
Serial No. 09/896,432
Filed: June 29, 2001
For: METHOD AND APPARATUS FOR DETONATING AN EXPLOSIVE CHARGE
Examiner H. Blackner
Art Unit: 3641

VERSION WITH MARKING TO SHOW CHANGES MADE

In the specification

The paragraph beginning at page 7 line 6 has been amended as follows:

Turning now to the drawings, as seen in Figure 1, a tubular 10 is provided with an outside surface 12, a tubular wall 14, and an inside surface 16. Explosive charges 18, and their associated detonators [18] (not shown) are attached to the outer surface of the wall, preferably in blind bores 20. In wells, where space is at a premium, this embodiment allows the explosive charges to be set close to flush with the outside surface 12 thereby lessening the danger of damage to the explosive charges and their detonators during running of the tubular downhole.

The paragraph beginning at page8 line 5 has been amended as follows:

Figure 2 shows a cross section through an explosive charge 18 in accordance with the first embodiment. The tubular 10 is first prepared by boring a series of blind bores 20 about the circumference. These bores 20 can be in set geometric patterns, randomly spaced, aligned vertical rows, circumferential bands, etc. in accordance with the desired plan for perforating. The [shaped] explosive charges 18, which preferably are shaped charges, are secured in their respective blind bores 20 by any known means, such as threading or affixing the explosive charge

into the blind bore with an adhesive material. The explosive charges 18 are then connected to their respective detonating means (not shown) for single, multiple, sequential, etc. detonation in accordance with the plan for perforating. The detonating means are in wireless/cableless contact with control means (also not shown) at the surface. When the explosive charge 18 is detonated, it will shear a plug 22 (shown in phantom) from wall 14. This amounts to no-jet perforating.

The paragraph beginning at page 10 line 8 has been amended as follows:

Figure 5 shows a schematic of the detonation device of the present invention including a wireless receiver 38; digital signal processing logic and control 40; exploding bridge wire 42; high voltage supply 44; and energy storage and trigger means 46. A coded wireless signal from the control at the surface will be received by wireless receiver 38, the digital signal processed by the associated micro processor based logic 40 and, if the code designates that the respective explosive charge is to be detonated, sends a signal to the trigger means 46 which will supply high voltage to explosive bridge wire 42 to trigger detonation of the respective explosive charge.

In the claims:

1.(Amended) A detonation device for selectively detonating [an] a designated explosive charge located downhole in a well bore, said device comprising:

a wireless receiver;

microprocessor and control means connected to said wireless receiver;

an explosive bridge wire;

high voltage supply means; and

energy storage and trigger means, whereby a coded [wireless] signal received by said

wireless receiver is decoded by the micro processor and, if the code designates that the respective explosive charge is to be detonated, sends a signal to the trigger means which will supply high voltage to explosive bridge wire which will create sufficient energy to initiate detonation of the respective explosive charge.

5. (Amended) The detonation device according to claim 1 wherein the [wireless] coded signal does not transmit the power to initiate detonation of the explosive charge thereby reducing the risk of accidental detonation of the explosive charge.

6. (Amended) The detonation device according to claim 1 wherein said explosive bridge wire comprises:

circuit board having an aperture therein;

an electrical circuit formed on said circuit board with a portion of the electrical circuit overlying said aperture forming a bridge, said bridge having dimensions smaller than the rest of the electrical circuit so that, upon application of power to the electrical circuit, the bridge will flash vaporize causing detonation of the nearby explosive charge.

8. (Amended) A method for selectively detonating [an] a designated explosive charge located downhole in a well bore, comprising the steps of

providing a detonating device having a wireless receiver, microprocessor and control means connected to said wireless receiver, at least one explosive bridge wire, high voltage supply means, and energy storage and trigger means; and

transmitting a coded [wireless] signal to said wireless receiver to be decoded by the micro processor and, if the code designates that the respective explosive charge is to be detonated,

sends a signal to the trigger means which supplies high voltage to explosive bridge wire causing it to substantially instantly vaporize creating sufficient energy to initiate detonation of the respective explosive charge.

12. (Amended) The method according to claim 8 wherein the [wireless] coded signal does not transmit the power to initiate detonation of the explosive charge thereby reducing the risk of accidental detonation of the explosive charge.

13. (Amended) The method according to claim 8 wherein said explosive bridge wire comprises:

circuit board having an aperture therein;

an electrical circuit formed on said circuit board with a portion of the electrical circuit overlying said aperture forming a bridge, said bridge having dimensions smaller than the rest of the electrical circuit so that, upon application of power to the electrical circuit, the bridge will flash vaporize causing detonation of the nearby explosive charge.

14. (Amended) The method according to claim [1] 8 wherein said microprocessor includes digital signal processing logic.